

BELLCOMM, INC.

955 L'ENFANT PLAZA NORTH, S.W.

WASHINGTON, D.C. 20024

B69 02118

SUBJECT: Tektite Digital Data Logistics and
Description of Data Bank at Bellcomm.
Case 730.

DATE: February 18, 1969

FROM: A. J. Cochran
N. Zill

ABSTRACT

The organization of the digital data bank at Bellcomm for the Tektite I 60-day underwater habitat project is described, and the planned data flow during the mission is outlined.

Sample input formats are attached and requirements for incorporating other data are presented.

(NASA-CR-106339) TEKTITE DIGITAL DATA
LOGISTICS AND DESCRIPTION OF DATA BANK AT
BELLCOMM (Bellcomm, Inc.) 24 p

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MEMORANDUM FOR FILE

All digital data generated by the scientific programs of the Tektite I 60-day underwater habitat project is to be entered in a data bank using the Univac 1108 computer facility at Bellcomm. The purposes of this data bank are:

1. To file digital data onto magnetic computer tapes on as close to a current basis as is feasible for rapid access and detailed analysis immediately at the end of the mission.
2. To have the data catalogued and available in uniform formats for cross-correlation of data from different programs, and for long-term retrieval.
3. To prepare periodic data reports (computer print-outs) during the mission, which contain preliminary analysis and display of key data for mission management, planning and data progress evaluation.

The flow of data into and out of the bank is depicted in Figure 1 of the attachment.

I. ORGANIZATION

The data will be organized by program, measure group [a group of measures being a series of parameters based on the same observational procedure and, generally, collected at the same time; each measure group has been assigned an identification number (MSRID)] by date collected, and by time of day recorded (where relevant). Location (e.g., temperature in crew quarters, wet room, etc., of habitat), aquanaut subject or recorder (coded by number), and other identifiers are generally contained as parameters in a measure group where pertinent. The ID of the responsible investigator and/or individual collecting the data is also stored where this is relevant or useful for error-checking purposes.

The scientific programs and the ranges of their measure group ID numbers are:

<u>PROGRAM</u>	<u>MSR ID</u>
Biomedical	11-25 for measures to be collected during the mission 110-259 for pre-mission and post-mission measures not included above
Behavioral	26-50 for measures to be collected during the mission 260-509 for pre-mission and post-mission measures not included above
Habitat Technology	60-73 for measures to be collected during the mission 600-730 for pre-mission and post-mission measures not included above
Marine Science	80-99 for measures to be collected during the mission 800-900 for pre-mission and post-mission measures not included above

The MSR IDs are specified in greater detail in the attachment to this memorandum.

II. INPUT OF DATA TO THE BANK

Data inputs to the digital bank may be made by:

1. Data sheets regularly used by the investigator, preferably coded for direct utilization by key-punch operators.
2. IBM cards punched at the investigator's facility.
3. Porta-Punch IBM cards. These are pre-perforated cards which can be manually punched on site. Further information about the use of these cards is given below. Assistance in composition and preparation of the necessary templates has been provided by Bellcomm.

No matter what the input mode is, the following information about each parameter is necessary for proper organization of the data bank and for preparation of the required computer programs:

1. Frequency/quantity of data, and when it will be available for insertion into the data bank. How often measured? Each day, over days. What time(s) of day collected?
2. Maximum and minimum possible values, units of measurement, decimal place accuracy.
3. Source of digital data. Counting, result of chemical analysis, read from analog record, read from meter, etc.
4. With what other measures will this data be analyzed? E.g., correlation coefficients, correction factors, etc.
5. Should this data be included in periodic data report?
6. What sort of statistical and/or graphical treatment should be performed on data before filing in master tape and for print-out in status report? Index of central tendency? Index of variation? Trend analysis?
7. Error estimation for data.

Instrumentation errors

In form of $\pm n\%$ or $\pm N$.

Reading errors

Are there any built-in error checks in the data?

This information should be forwarded to Bellcomm along with sample inputs.

III. RETRIEVAL OF DATA FROM THE BANK

Data may be retrieved from the data bank either weekly during the mission or as a complete file after the mission in the form of:

1. Computer magnetic tapes. Tape layout forms covering all the data will be provided to investigators. Request must be accompanied

by sufficient blank tape on which the required data is to be copied. The tapes will be written on the Univac 1108 with the following specifications: 36-bit words, field data, 556 bpi, 256 word records, with odd parity. If the investigator's facility cannot read field data and odd parity, Bellcomm can prepare tapes with even parity and Binary Coded Decimal. This must be specified in advance. Conversion programs for word sizes other than 36 bit are available at most computer facilities.

2. Computer-punched cards. The requester must specify the required data to be punched on the cards. If such cards are required in large quantities, the cost of the cards must be covered by the requesters.
3. Computer print-outs. During the mission, selected data print-outs will be contained in the periodic data reports.

IV. ACCESS TO DATA

Before, during and immediately after the mission, access to data in the bank will be permitted only to investigators directly associated with Tektite I, and generally only to data within their program area. After such time as the principal results have been published, free access to the data will be instituted, unless otherwise requested by the responsible investigator. Eventually the data will be transferred to the American Documentation Institute or some other permanent storage facility. Any further restrictions desired by an investigator should be specified to Bellcomm.

V. USE OF PORTA-PUNCH CARDS

Data will be entered on IBM cards by manual punching of pre-perforated stock cards with a stylus. These cards are placed on an IBM Information Recorder board with a template indicating where and how the data should be entered (see Figure 2 of the attachment). The templates are exchangeable, and each group of similar measurements has a specific template.

The cards have 40 columns, the equivalent of every other column on a standard 80-column IBM card. The first two columns of each data card contain the MSR ID number indicating

which program the data belong to, and which set of measurements within that program the card contains. The next three columns contain the month and day number on which the data was collected. These five digits will be punched by each person entering data on site each time he uses a card. The remaining 35 columns of each card are used as specified by the relevant investigators, with the limitation that only a single punch is permitted in each column. Provision for entry of time of day of recording and an ID number for person doing recording has been incorporated where appropriate.

VI. DATA LOGISTICS

The stock cards will be stored at Base Camp in an air-conditioned room. Since the total number of cards required over all programs will be in the neighborhood of 30,000 (including a 50% surplus margin), the storage space required is less than 10 cubic feet. A week's supply of cards will be kept at the Surface Control Center Van for those programs requiring card punching at that site. The individual program teams will be responsible for replenishment of this supply from Base Camp storage.

Punched cards will be shipped out once a week on Wednesday afternoon. Cards from the various programs will be packed together (for minimum package size) in the same boxes used for card storage. The card package will be hand carried to the Harry Truman Airport on St. Thomas and from there flown to Washington. In Washington, the cards will be incorporated into the digital data bank at Bellcomm and processed into a periodic data report computer print-out. The digital data flow is depicted in Figure 1. When computer print-outs are available, they will be flown back to St. Thomas and will be ferried back to Base Camp by mission personnel returning to Tektite from Washington. The status reports should be examined by data supervisors in the various program teams for errors and omissions.

At the end of the mission, the porta-punch cards (or machine duplicates) can be shipped to locations designated by the individual programs. At this point they will serve only as a back-up, since the data contained on them should also be available on magnetic tapes from the digital data bank.

VII. NON-DIGITAL DATA

Much of the Tektite data will be in the form of photographs, analog records on paper rolls and magnetic tape, etc. The responsibility for recording, handling, storage,

shipping, and retrieval of such data lies with the individual investigators and programs. Cmdr. Eager has been informed of the need for storage space for such data at Base Camp. Whether and how such data will be incorporated into the data bank will be resolved after the mission is completed.

VIII. MEASURE LIST

A preliminary listing of measure groups and MSR IDs, and sample Porta-Punch templates prepared at Bellcomm, are attached to this memorandum. Data not covered as yet will be incorporated as it becomes available to Bellcomm from the participating investigators.

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A. J. Cochran

Nicholas Zill
N. Zill

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1011-NZ

Attachments
Appendices A and B
Figures 1 and 2

APPENDIX A

LISTING OF MEASURE GROUPS AND MEASURE I.D. NUMBERS

BIOMEDICAL PROGRAM

<u>MSR ID</u>	<u>TITLE</u>	<u>INPUT MODE</u>
11	Medical Status Assessment	Porta-Punch cards from on-site physicians
12	Symptoms and Treatment Record	Porta-Punch cards from on-site physicians
14-15	Pulmonary Ventilation and Mechanics	Data Sheets (Dr. Lambertsen)
16-17	Clinical Blood Analysis	Data Sheets (Dr. Fischer)
18-20	Blood Chemistry	Data Sheets (Dr. Fischer)
21	Microbiological Measures	Data Sheets (Lt. Cobet)

BEHAVIORAL PROGRAM

<u>MSR ID</u>	<u>TITLE</u>	<u>INPUT MODE</u>
27	Replacement and Repair Record	Porta-Punch Cards from on-site observers
28	Catalogue of Critical Incidents	Coded post-mission from logs, tapes, etc.
29	Psychomotor Test Record	Data Sheets (Dr. Saucer, Langley group)
30	Location-Work Record	Porta-Punch cards from on-site observers
31	Transit Record	Porta-Punch cards from on-site observers
32	Meal Behavior	Porta-Punch cards from on-site observers
33	Dive Record	Porta-Punch cards from on-site observers
35	Communication with topside	Porta-Punch cards from on-site observers
36	Time of Arising	Porta-Punch cards from on-site observers
37	Time of Retiring	Porta-Punch cards from on-site observers
38	Franklin Printer Transfer Record: Diving Panel, TV, Radio, Head sets, Stove	Porta-Punch cards from on-site observers
39	Maintenance of self and Habitat	Porta-Punch cards from on-site observers
40	Adherence to Watch	Porta-Punch cards from on-site observers
41	Pressure Pot Usage	Porta-Punch cards from on-site observers
42	Pieces of Mail	Porta-Punch cards from on-site observers

BEHAVIORAL PROGRAM CONT.

<u>MSR ID</u>	<u>TITLE</u>	<u>INPUT MODE</u>
41	Pressure Pot Usage	Porta-Punch cards from on-site observers
42	Pieces of Mail	Porta-Punch cards from on-site observers
43	Mood Adjective Check List Transfer Record	Porta-Punch cards from on-site observers
44	Winch Usage	Porta-Punch cards from on-site observers
45	Biomedical Monitoring Procedure	Porta-Punch cards from on-site observers
46	Sick Call Record	Porta-Punch cards from on-site observers
47	EEG Hook-up Procedures	Porta-Punch cards from on-site observers
48	EEG Sleep Staging	Data Sheets, Porta-Punch cards (Drs. Johnson, Naitow) (Drs. DeLucchi, Kelloway, Frost)
49	Sleep Questionnaires	Data Sheets (Drs. Johnson, Naitow)
50	Chapple Interaction Analysis Record	Computer-punched cards (Dr. Helmreich)

HABITAT TECHNOLOGY PROGRAM

<u>MSR ID</u>	<u>TITLE</u>	<u>INPUT MODE</u>
60	Habitat Environmental Survey	Porta-Punch cards from on-site G.E. personnel
61	Thermal Adjustments	Porta-Punch cards from on-site G.E. personnel
62	Emergency Air Measures	Porta-Punch cards from on-site G.E. personnel
63	Alarms, Drills, and Emergencies	Porta-Punch cards from on-site G.E. personnel
64	Engine Room Measures	Porta-Punch cards from on-site G.E. personnel
65	Baralyme Change and Heat Exchanger Diagnostics	Porta-Punch cards from on-site G.E. personnel
66	Communication System, Appliances, and Anomalies	Porta-punch cards from on-site G.E. personnel
67	Topside Engineering Measures	Porta-Punch cards from on-site G.E. personnel
68	Atmosphere Monitoring and Mass Spectrometer Maintenance	Porta-Punch cards from on-site G.E. personnel
69	Topside Atmosphere Analysis (Gas Chromatograph and Detector Tubes)	Porta-Punch cards from on-site G.E. personnel
70	Diving Systems and Underwater Maintenance	Porta-Punch cards from on-site G.E. personnel
71	Replacement and Repair Record	Same as MSR ID #27

MARINE SCIENCE PROGRAM

<u>MSR ID</u>	<u>TITLE</u>	<u>INPUT MODE</u>
80	Daily Weather Report - St. Thomas	Coded from U.S. Weather Bureau and U.S. Coast Guard Reports
81	Lobster Tagging and Population Data	Porta-Punch cards from on-site marine science support personnel
82	Sediment Size Analysis	Porta-Punch cards from on-site marine science support personnel
83	Sediment Compositional Analysis	Porta-Punch cards from on-site marine science support personnel
84-86	Underwater Environmental Measures	Coded post-mission from automatic recorders and aquanauts logs

APPENDIX B

SAMPLE INPUT TEMPLATES

MSR ID = 11.
MEDICAL STATUS ASSESSMENT

Aquanauts	Skin Code	Blood Pressure										General Health
		Sys-tolic	Change	Dia-stolic	Pulse	Oral	Body	Weight	Temper-ature(F)	(lbs)	(bpm)	
1=Valler	O	H	T	U	H	T	U	H	T	U	T	Excellent
2=Clifton	O	H	T	U	H	T	U	H	T	U	T	Good
3=Mahnken	O	H	T	U	H	T	U	H	T	U	T	Fair
4=VanDerwalker	O	H	T	U	H	T	U	H	T	U	T	Poor
Aquanaut	J	J	J	J	J	J	J	J	J	J	J	
No.	Mo.	Time of Day	Day Measured	Weight (lbs)	Temperature(F)							
	D	Day	Measured									
	I.D.	N	Day	Hrs. Min	H.T.U.t	H.T.U.t	H.T.U.t	H.T.U.t	H.T.U.t	H.T.U.t	H.T.U.t	
1=Normal	1	O	O	O	O	O	O	O	O	O	O	
1=Lesion	2	O	O	O	O	O	O	O	O	O	O	
2=Lesion,	3	O	O	O	O	O	O	O	O	O	O	
Photo taken	4	O	O	O	O	O	O	O	O	O	O	
3=Other	5	O	O	O	O	O	O	O	O	O	O	
Abnormality	6	O	O	O	O	O	O	O	O	O	O	
9=Not examined	7	JY	C7	J	7	0	0	7	0	0	7	
	8	Au	O8	S	8	0	0	8	0	0	8	
	9	S	O9	S	9	0	0	9	0	0	9	

H=hundreds, T=tens, U=units, t=tenths.

+

+

LOCATION RECORD # 30

LEGEND

CO • CREW QUARTERS	9 • ARIECE								
	T • TUNNEL								
	CU • CUPOLA								
	ECS • ENVIRONMENTAL								
	CONTROL SYSTEM								
	WL • WET LAB								
	WL • WAITR								
DEFINITIONS									
DIRECT MARN RSRCH									
SPECIMEN COLLECTION									
HANDLING ACTIVITIES IN SEA									
MARIN RESEARCH SUPPORT									
PHOTOMAR FOR RESEARCH AS									
FILLING TANKS, READING									
JOURNALS, REPAIR AND									
READYING OF EQUIP									
OTHER SCIENCE WORK									
BIOMED SAMPLING, EEG									
ELECTRODE ATTACHMENT,									
PSYCH QUESTIONNAIRES									
MARINAT MAINT / REPAIR									
HOUSE KEEPING, REPAIRS									
REFURISHING OF ECS									
EQUIP									
9									

LOCATION

COMPARTMENT	RECORDING TIME				MAN #				WORK STATUS CATEGORIES				IF MAN IN BUNK THEN				MAN #			
	DAY	HR	MIN	SECTION	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
DEC	OCT	0	0	CO	○	○	○	○	DIR. MARN. RSRCH	○	○	○	○	○	○	○	○	○	○	
MSR	JAN	0	0	CO	○	○	○	○	MARN RSRCH SPRT	○	○	○	○	○	○	○	○	○	○	
ID	FEB	0	0	CO	○	○	○	○	OTHR SCLEN. WRK	○	○	○	○	○	○	○	○	○	○	
MSR	MAR	0	0	CO	○	○	○	○	HABIT. MAINT/REPR	○	○	○	○	○	○	○	○	○	○	
ID	APR	0	0	CO	○	○	○	○	FULLY CLOSED	○	○	○	○	○	○	○	○	○	○	
MSR	MAY	0	0	CO	○	○	○	○	WATCH STNDG	○	○	○	○	○	○	○	○	○	○	
ID	JUN	0	0	CO	○	○	○	○	SELF. MAINTNC.	○	○	○	○	○	○	○	○	○	○	
MSR	JUL	0	0	CO	○	○	○	○	RECREATION	○	○	○	○	○	○	○	○	○	○	
ID	AUG	0	0	CO	○	○	○	○	RELX, REST, SLEEP	○	○	○	○	○	○	○	○	○	○	
MSR	SEP	0	0	CO	○	○	○	○	IN TRANSIT	○	○	○	○	○	○	○	○	○	○	
ID	OCT	0	0	CO	○	○	○	○	DN'T KNOW	○	○	○	○	○	○	○	○	○	○	
MSR	NOV	0	0	CO	○	○	○	○	BLOCKED OR INOPERATIVE CAMERA	○	○	○	○	○	○	○	○	○	○	
ID	DEC	0	0	CO	○	○	○	○	COMMUNICATIVE STATUS	○	○	○	○	○	○	○	○	○	○	

• IF COMPARTMENT CAMERA BLOCKED OR INOPERATIVE PUNCH APPROP AREA.
 • IF AQUANAUT CANNOT BE LOCATED, PUNCH DON'T KNOW IN COMPARTMENT CATEGORIES

#35

COMMUNICATION WITH TOPSIDE

COMMUNICATION INITIATOR CODE	DEC MSR ID #	START TIME HR MIN SEC	STOP TIME HR MIN SEC
1. TOPSIDE	OCT 0	0 0 0	0 0 0
2. HABITAT	OCT 0	0 0 0	0 0 0
3. DON'T KNOW	OCT 0	0 0 0	0 0 0
MAJ TOPSIDE COMMUNICATOR IDENTITY	NOV 1	0 0 0	0 0 0
1. TEST DIR.	NOV 2	0 0 0	0 0 0
2. MED. DR.	NOV 3	0 0 0	0 0 0
3. BACKUP CREW	NOV 3	0 0 0	0 0 0
MEMBERS	NOV 4	0 0 0	0 0 0
4. SUPPORT	NOV 4	0 0 0	0 0 0
DIVERS	NOV 5	0 0 0	0 0 0
5. OTHER SCIENTISTS	NOV 6	0 0 0	0 0 0
TESTS	NOV 6	0 0 0	0 0 0
6. FAMILY	NOV 7	0 0 0	0 0 0
7. VIP	NOV 7	0 0 0	0 0 0
8. OTHER	NOV 8	0 0 0	0 0 0
COMMUNICATION MODE	NOV 9	0 0 0	0 0 0

1. INTERCOM
2. SOUND FWD
3. OPEN MICROPHONE
4. OTHER
5. DON'T KNOW

% OF CONVERSATION THAT IS
OPERATIONAL AS OPPOSED
TO SOCIAL IN NATURE

9 = 90%
10 = 10%
20 = 20%

Col. 12 Code

0=Topside
1=Waller
2=Clifton
3=Mahnken
4=Vander-
walker
5-8=back-ups
9=more than
one aquan't
Col. 62 Code
7=Purge
Valve closed
3=P.V. open
2=P.V. not
checked.

Partial Pressures- Gauges
(in mm. Hg)

No., Day MSR I.D. N.	D. Time of Day Read Hrs. Min.	Reading By:			Abs. Press (psia)			pN ₂			pO ₂			pCO ₂			pH ₂ O			T.U.			H.T.U.			T.U.			H.T.U.			T.U.			Mass Spectrometer Maintenance											
		M	C	V	M	N	V	M	N	V	M	N	V	M	N	V	M	N	V	M	N	V	M	N	V	M	N	V	M	N	V	Batt.	Ion Anode Cur. Current	Batt.	Volt.											
0	0	W	C	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W										
1	1	J	P	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J							
2	2	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M							
3	3	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A							
4	4	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY	KY										
5	5	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju	Ju										
6	6	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY	JY										
7	7	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au	Au										
8	8	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S							
9	9																																													

Mass Spec. Code (Col. 66): 0=Calibrated, 1=Calibrated, 2=Zero Change Noted, 3=Filament changed, 4=Battery changed, 5=Heater inoperative.
Adjusted, 6=Purge, 7=Valve closed, 8=P.V. open, 9=P.V. not checked.

MSR ID = 69
 TOPSIDE ATMOSPHERE
 ANALYSIS

GAS CHROMATOGRAPH ANALYSIS-----
 DETECTOR TUBE-----

"Sample From" Code	"Taken By" Code	M.S., Day	Time of Sample	I.D.	Hrs. Min	CQ T	B W C M V R	A	ER V 4 5 6 7 8 9	Vent	M/1	2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58	Total Hy- drocarb (Methane) ppm	OXYGEN% N 2 % CO 2 H 2 % CO ppm	Last 3 digits of catalog #	Concen- tration Units	ThH T U										
																T	U	F	U.t'	T	U.t'	H	T	U	H	T	U
0=Crew Quarters	0	J																									
1=Bridge	1	F																									
4=Engine Room	1	E																									
5=Wet Room	2	M																									
8=Vent Tube	3	A																									
"Taken By" Code	4	My																									
0=Topside	0																										
1=Waller	5	Ju																									
2=Clifton	6	JY																									
3=Mahnken	6	All																									
4=VanDerwalker	7	S																									
9=More than 1 aquanaut	8																										
	9																										

Exception:
 Lead-in-air
 =#999.

+ IBM part no. 7-3695

Mo.	D	MSR N	DAY	Capture or Sghtng Site							DEPTH In Ft	SPAG. TAG #
				BERRIED	SEX	SPERM SAC	SITAE	GEAR	GRID SECTION	HABITAT		
MSR ID=81		I.D.O	0		J						300	3000000
Lobster			1	O	O						300	300001
Population			2	O	O						300	300002
Data			3	O	O						300	300003
<u>Berried Code</u>			4	O	O						300	300004
1=F.with eggs			5	O	O						300	300005
2=F.,no eggs			6	O	O						300	300006
<u>Setae Code</u>			7	O	O						300	300007
1=Long setae			8	O	O						300	300008
2=Short "			9	O	O						300	300009
3=Undeter- mined												
<u>Sperm Code</u>												
1=1 sac												
2=Multiple sacs												
3>No sacs												

Mo.	D	MSR N	DAY	INJURIES							Release Site GRID SECTION	SPAG. TAG #	
				TYPE	DATA	TIME in Hrs.	Carapace Length (mm)	Carapace SHELL COLOR	Antennae AGE	Injury Code	Right Legs Leg	Left Legs Leg	
<u>Car.Injury</u>		I.D.O	0										300000
1=No injury			1	O	O					No injury			300001
2=Small "			2	O	O					Broken			300002
3=Medium "			3	O	O					Missing			300003
4=Extensive injury			4	O	O					25% Regen			300004
Use same In- jury Code for 4			5	O	O					50% Regen			300005
Antennae and Legs.			6	O	O					75% Regen			300006
<u>Tag Site Code</u>			7	O	O								300007
1=Habitat			8	O	O								300008
2=Lab			9	O	O								300009

Punch Spag.Tag # on both cards
to identify card pairs.

Punch here to
indicate 2nd card.

Rock and Soil
Profile

Loc. No.	Date	0	1	2	3	4	5	6	7	8	9
1	Aug 1963	0	0	0	0	0	0	0	0	0	0
2	Aug 1963	0	0	0	0	0	0	0	0	0	0
3	Aug 1963	0	0	0	0	0	0	0	0	0	0
4	Aug 1963	0	0	0	0	0	0	0	0	0	0
5	Aug 1963	0	0	0	0	0	0	0	0	0	0
6	Aug 1963	0	0	0	0	0	0	0	0	0	0
7	Aug 1963	0	0	0	0	0	0	0	0	0	0
8	Aug 1963	0	0	0	0	0	0	0	0	0	0
9	Aug 1963	0	0	0	0	0	0	0	0	0	0

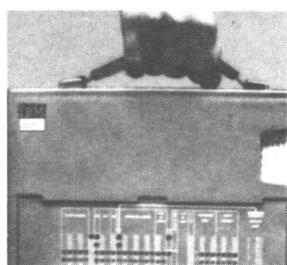
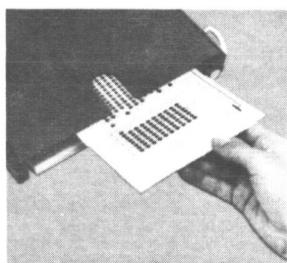
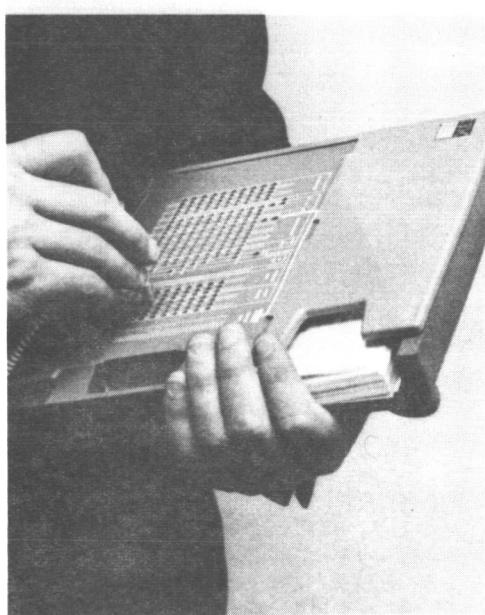
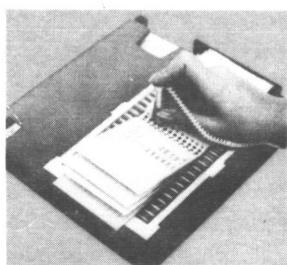
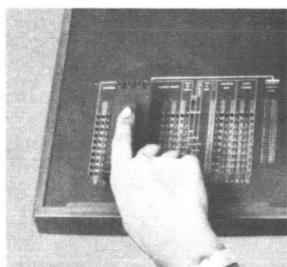
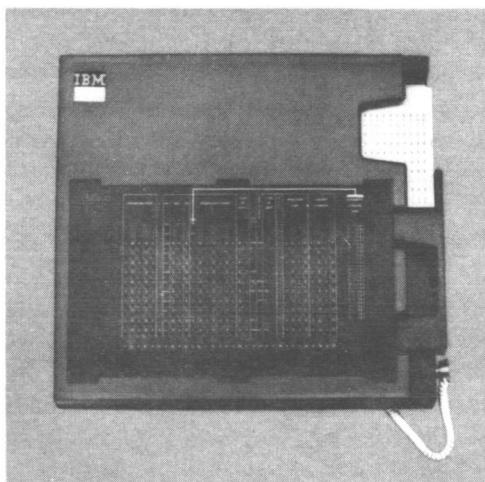
Location: Distance (ft) from Marker / at Compass Angle (degrees). Located on cards as needed for size classes. Location need not be repeated, but must be etc.etc. etc.

No.	No.	Type	Size								
1	Aug 63	Sediment Content	0	0	0	0	0	0	0	0	0
2	Aug 63	0	0	0	0	0	0	0	0	0	0
3	Aug 63	1	0	0	0	0	0	0	0	0	0
4	Aug 63	2	0	0	0	0	0	0	0	0	0
5	Aug 63	3	0	0	0	0	0	0	0	0	0
6	Aug 63	4	0	0	0	0	0	0	0	0	0
7	Aug 63	5	0	0	0	0	0	0	0	0	0
8	Aug 63	6	0	0	0	0	0	0	0	0	0
9	Aug 63	7	0	0	0	0	0	0	0	0	0
10	Aug 63	8	0	0	0	0	0	0	0	0	0
11	Aug 63	9	0	0	0	0	0	0	0	0	0

Each additional card as needed to cover all Compositional types. Each card must contain Max ID, date, and sample code. Location derived from parallel log card. P.U. = scat, unif, trans, cr. &c. as above.

Information Recorder

Model I



TEKTITE DIGITAL DATA FLOW

